

| Ref # | Hits | Search Query   | DBs   | Default Operator | Plurals | Time Stamp       |
|-------|------|--|---|------------------|---------|------------------|
| L1    | 437  | vadose zone  | US-PGPUB;<br>USPAT;<br>USOCR;<br>EPO; JPO;<br>DERWENT | ADJ              | ON      | 2005/11/22 08:43 |
| L2    | 31   | l1 and ((nano\$1composite or (nano composite)) or permeable (barrier or membrane) or reactive (barrier or membrane))   | US-PGPUB;<br>USPAT;<br>USOCR                          | ADJ              | ON      | 2005/11/22 08:11 |
| L3    | 18   | ((vadose (region or area)) or (aeration (zone or region or area)) or (unsaturated (zone or region or area))) and ((nano\$1composite or (nano composite)) or permeable (barrier or membrane) or reactive (barrier or membrane)) | US-PGPUB;<br>USPAT;<br>USOCR                          | ADJ              | ON      | 2005/11/22 08:12 |
| L4    | 1    | l1 and ((nano\$1composite or (nano composite)) or permeable (barrier or membrane) or reactive (barrier or membrane))   | EPO; JPO;<br>DERWENT                                  | ADJ              | ON      | 2005/11/22 08:12 |
| L5    | 1    | ((vadose (region or area)) or (aeration (zone or region or area)) or (unsaturated (zone or region or area))) and ((nano\$1composite or (nano composite)) or permeable (barrier or membrane) or reactive (barrier or membrane)) | EPO; JPO;<br>DERWENT                                  | ADJ              | ON      | 2005/11/22 08:12 |
| L6    | 617  | hydraulic conductivity   | US-PGPUB;<br>USPAT;<br>USOCR;<br>EPO; JPO;<br>DERWENT | ADJ              | ON      | 2005/11/22 08:42 |
| L7    | 73   | l6 and ((nano\$1composite or (nano composite)) or permeable (barrier or membrane) or reactive (barrier or membrane))   | US-PGPUB;<br>USPAT;<br>USOCR;<br>EPO; JPO;<br>DERWENT | ADJ              | ON      | 2005/11/22 08:41 |
| L8    | 48   | l7 and ground  | US-PGPUB;<br>USPAT;<br>USOCR;<br>EPO; JPO;<br>DERWENT | ADJ              | ON      | 2005/11/22 08:41 |
| L9    | 113  | hydraulic conductivity same (equal or "same")  | US-PGPUB;<br>USPAT;<br>USOCR;<br>EPO; JPO;<br>DERWENT | ADJ              | ON      | 2005/11/22 08:43 |

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| L10 | 25   | I9 and ((nano\$1composite or (nano composite)) or permeable (barrier or membrane) or reactive (barrier or membrane))   | US-PGPUB;<br>USPAT;<br>USOCR;<br>EPO; JPO;<br>DERWENT | ADJ | ON | 2005/11/22 08:43 |
| L11 | 8618 | 524/492 or 524/430 or 210/679 or 210/681 or 210/682 or 210/688 or 210/747 or 524/783 or 524/786 or 524/414   | US-PGPUB;<br>USPAT;<br>USOCR                          | ADJ | ON | 2005/11/22 08:52 |
| L12 | 235  | I11 and ((nano\$1composite or (nano composite)) or permeable (barrier or membrane) or reactive (barrier or membrane))  | US-PGPUB;<br>USPAT;<br>USOCR                          | ADJ | ON | 2005/11/22 08:52 |
| L13 | 1    | "5728302".pn.  | US-PGPUB;<br>USPAT;<br>USOCR                          | ADJ | ON | 2005/11/22 10:01 |
| S1  | 16   | ("3817911" "4772660" "4827005" "6146787" "6217775" "6254786" "6357968" "6398960" "6403364" "6403755" "6423531" "6428695" "6432693" "6524485" "6544690").PN.  | US-PGPUB;<br>USPAT;<br>USOCR                          | ADJ | ON | 2005/11/22 07:50 |
| S2  | 7    | (nano\$1composite or (nano composite)) and (inorganic oxide) and (hydro\$1philic polymer) and (metal ion sequestration or chelat\$4)   | US-PGPUB;<br>USPAT;<br>USOCR                          | ADJ | ON | 2005/11/14 16:43 |
| S3  | 38   | (silicon dioxide or silica or sand or quartz or diatomite or aluminum oxide or titanium oxide or zirconium oxide or boron oxide or metal oxide or "SiO.sub.2" or "Al.sub.2" "O.sub.3") and (poly\$1acrylonitrile or poly\$1ethyleneoxide or poly\$1ethylene glycol or poly\$1vinyl acetate or poly\$1vinyl alcohol) and (ammonium molybdophosphate or phosphonopyridine \$2oxide\$1 or \$2thiophosphinic acid or ammonium\$4molybdophosphate or ammonium near2 molybdophosphate) | US-PGPUB;<br>USPAT;<br>USOCR                          | ADJ | ON | 2005/11/15 12:35 |
| S4  | 385  | (silicon dioxide or silica or sand or quartz or diatomite or aluminum oxide or titanium oxide or zirconium oxide or boron oxide or metal oxide or "SiO.sub.2" or "Al.sub.2" "O.sub.3") and (poly\$1acrylonitrile or poly\$1ethyleneoxide or poly\$1ethylene glycol or poly\$1vinyl acetate or poly\$1vinyl alcohol) and (nano\$1composite or (nano composite))   | US-PGPUB;<br>USPAT;<br>USOCR                          | ADJ | ON | 2005/11/14 17:05 |

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| S5  | 738   | ((permeable reactive barrier) or (permeable near3 barrier) or (permeable near4 membrane) or (nano\$1composite or (nano composite))) and cesium\$4 and (water or ground\$1water or waste\$1water water\$1table or aquifer) | US-PGPUB; USPAT; USOCR | ADJ | ON | 2005/11/14 17:12 |
| S6  | 535   | S5 and oxide  | US-PGPUB; USPAT; USOCR | ADJ | ON | 2005/11/14 17:15 |
| S7  | 3218  | ((permeable reactive barrier) or (permeable near3 barrier) or (permeable near4 membrane) or (nano\$1composite or (nano composite)))ab.  | US-PGPUB; USPAT; USOCR | ADJ | ON | 2005/11/14 17:14 |
| S8  | 29    | ((permeable reactive barrier) or nano\$1composite or (nano composite)) and oxide).ab.   | US-PGPUB; USPAT; USOCR | ADJ | ON | 2005/11/15 07:39 |
| S9  | 24    | \$5permeable reactive barrier   | EPO; JPO; DERWENT      | ADJ | ON | 2005/11/15 10:44 |
| S11 | 18    | 210/170.ccls. and oxide and polymer   | US-PGPUB; USPAT; USOCR | ADJ | ON | 2005/11/15 09:18 |
| S12 | 133   | reactive barrier and (water or ground\$1water or waste\$1water or aquifer)  | US-PGPUB; USPAT; USOCR | ADJ | ON | 2005/11/15 10:04 |
| S13 | 44503 | ion\$1exchang\$3  | US-PGPUB; USPAT; USOCR | ADJ | ON | 2005/11/15 08:56 |
| S14 | 1052  | S13 and oxide and polymer and cesium\$4   | US-PGPUB; USPAT; USOCR | ADJ | ON | 2005/11/15 09:19 |
| S16 | 361   | S13 and oxide and polymer and cesium\$4 and (sequestrat\$4 or chelat\$4) and (water or ground\$1water or waste\$1water or aquifer)  | US-PGPUB; USPAT; USOCR | ADJ | ON | 2005/11/15 09:21 |
| S17 | 6     | S13 and oxide and polymer and cesium\$4 and (sequestrat\$4 or chelat\$4) and (ground\$1water or waste\$1water or aquifer)   | US-PGPUB; USPAT; USOCR | ADJ | ON | 2005/11/15 09:27 |
| S18 | 24    | oxide and polymer and cesium\$4 and (sequestrat\$4 or chelat\$4) and (ground\$1water or waste\$1water or aquifer or subterranean reservoir) and sorb\$4   | US-PGPUB; USPAT; USOCR | ADJ | ON | 2005/11/15 09:36 |

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| S19 | 615  | oxide and polymer and cesium\$4 and (sequestrat\$4 or chelat\$4) and (ground\$1water or waste\$1water or aquifer or subterranean reservoir or water) and \$2sorb\$4 same (membrane or barrier)  | US-PGPUB; USPAT; USOCR | ADJ | ON | 2005/11/15 09:33 |
| S20 | 7    | oxide and polymer and cesium\$4 and (sequestrat\$4 or chelat\$4) and (ground\$1water or waste\$1water or aquifer or subterranean reservoir) and \$2sorb\$4 same (membrane or barrier)   | US-PGPUB; USPAT; USOCR | ADJ | ON | 2005/11/15 09:36 |
| S21 | 1544 | (reactive or permeable) barrier and (water or ground\$1water or waste\$1water or aquifer)   | US-PGPUB; USPAT; USOCR | ADJ | ON | 2005/11/15 10:04 |
| S22 | 1    | S21 and (ammonium molybdophosphate or phosphonopyridine \$2oxide\$1 or \$2thiophosphinic acid or ammonium\$4molybdophosphate or ammonium near2 molybdophosphate)  | US-PGPUB; USPAT; USOCR | ADJ | ON | 2005/11/15 10:47 |
| S23 | 333  | (ammonium molybdophosphate or phosphonopyridine \$2oxide\$1 or \$2thiophosphinic acid or ammonium\$4molybdophosphate or ammonium near2 molybdophosphate)  | US-PGPUB; USPAT; USOCR | ADJ | ON | 2005/11/15 11:40 |
| S25 | 74   | (ammonium molybdophosphate or phosphonopyridine \$2oxide\$1 or \$2thiophosphinic acid or ammonium\$4molybdophosphate or ammonium near2 molybdophosphate) and (poly\$1acrylonitrile or poly\$1ethyleneoxide or poly\$1ethylene glycol or poly\$1vinyl acetate or poly\$1vinyl alcohol) | US-PGPUB; USPAT; USOCR | ADJ | ON | 2005/11/15 12:03 |
| S26 | 28   | S25 and cesium\$4   | US-PGPUB; USPAT; USOCR | ADJ | ON | 2005/11/15 11:54 |
| S28 | 0    | (ammonium molybdophosphate or phosphonopyridine \$2oxide\$1 or \$2thiophosphinic acid or ammonium\$4molybdophosphate or ammonium near2 molybdophosphate) and (poly\$1acrylonitrile or poly\$1ethyleneoxide or poly\$1ethylene glycol or poly\$1vinyl acetate or poly\$1vinyl alcohol) | EPO; JPO; DERWENT      | ADJ | ON | 2005/11/15 12:03 |

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| S29 | 87  | (ammonium molybdophosphate or phosphonopyridine \$2oxide\$1 or \$2thiophosphinic acid or ammonium\$4molybdophosphate or ammonium near2 molybdophosphate)  | EPO; JPO; DERWENT      | ADJ | ON | 2005/11/15 12:05 |
| S30 | 223 | ammonium phosphomolybdate   | US-PGPUB; USPAT; USOCR | ADJ | ON | 2005/11/15 12:31 |
| S31 | 31  | ammonium phosphomolybdate   | EPO; JPO; DERWENT      | ADJ | ON | 2005/11/15 12:31 |
| S32 | 58  | (silicon dioxide or silicate or silica or sand or quartz or diatomite or aluminum oxide or titanium oxide or zirconium oxide or boron oxide or metal oxide or "SiO.sub.2" or "Al.sub.2" "O.sub.3") and (poly\$1acrylonitrile or poly\$1ethyleneoxide or poly\$1ethylene glycol or poly\$1vinyl acetate or poly\$1vinyl alcohol) and (molybdophosphate or phosphonopyridine \$2oxide\$1 or \$2thiophosphinic acid or ammonium\$4molybdophosphate or ammonium near2 molybdophosphate) | US-PGPUB; USPAT; USOCR | ADJ | ON | 2005/11/15 12:45 |
| S33 | 336 | Aquifer and remediation and barrier   | US-PGPUB; USPAT; USOCR | ADJ | ON | 2005/11/15 14:16 |
| S34 | 185 | S33 and oxide   | US-PGPUB; USPAT; USOCR | ADJ | ON | 2005/11/15 13:22 |
| S39 | 123 | S33 and oxide and ((heavy metal) or radionuclide or cesium\$4 or caesium or \$4cesium) and (poly\$1acrylonitrile or poly\$1ethyleneoxide or poly\$1ethylene glycol or poly\$1vinyl acetate or poly\$1vinyl alcohol or polymer or resin or binder)   | US-PGPUB; USPAT; USOCR | ADJ | ON | 2005/11/15 13:54 |
| S40 | 26  | S39 not microbial not microorganisms  | US-PGPUB; USPAT; USOCR | ADJ | ON | 2005/11/15 13:54 |
| S41 | 6   | Aquifer and remediation and barrier   | EPO; JPO; DERWENT      | ADJ | ON | 2005/11/15 14:17 |
| S44 | 238 | 210/681.ccls. and (oxide or cesium or heavy metal)  | US-PGPUB; USPAT; USOCR | ADJ | ON | 2005/11/15 15:03 |

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| S46 | 124   | 210/681.ccls. and (oxide or cesium or heavy metal) and (poly\$1acrylonitrile or poly\$1ethyleneoxide or poly\$1ethylene glycol or poly\$1vinyl acetate or poly\$1vinyl alcohol or polymer)  | US-PGPUB; USPAT; USOCR | ADJ | ON | 2005/11/16 08:00 |
| S47 | 26    | harrup-\$.in.   | US-PGPUB; USPAT; USOCR | ADJ | ON | 2005/11/16 08:01 |
| S48 | 7     | harrup-mason-\$.in.   | US-PGPUB; USPAT; USOCR | ADJ | ON | 2005/11/16 10:59 |
| S49 | 162   | Bechtel BWXT Idaho.as.  | US-PGPUB; USPAT; USOCR | ADJ | ON | 2005/11/16 09:35 |
| S50 | 30    | stewart-frederick-\$.in.  | US-PGPUB; USPAT; USOCR | ADJ | ON | 2005/11/16 09:34 |
| S51 | 195   | Bechtel BWXT Idaho.as.  | EPO; JPO; DERWENT      | ADJ | ON | 2005/11/16 09:35 |
| S52 | 1     | "5240602".pn.   | US-PGPUB; USPAT; USOCR | ADJ | ON | 2005/11/16 09:39 |
| S53 | 17923 | (ion\$1exchange\$1 or ion exchange\$1) and (radioactive isotopes or radionuclide or radio\$1isotopes or cesium)   | US-PGPUB; USPAT; USOCR | ADJ | ON | 2005/11/16 09:41 |
| S54 | 6453  | S53 and (silicon dioxide or silica or silicate or aluminum oxide or alumina or titanium oxide or zirconium oxide or boron oxide or metal oxide or "SiO.sub.2" or "Al.sub.2" "O.sub.3") and (poly\$1acrylonitrile or poly\$1ethyleneoxide or poly\$1ethylene glycol or poly\$1vinyl acetate or poly\$1vinyl alcohol) | US-PGPUB; USPAT; USOCR | ADJ | ON | 2005/11/16 09:42 |
| S55 | 6431  | S53 and (silicon dioxide or silica or silicate or aluminum oxide or alumina or titanium oxide or zirconium oxide or boron oxide or metal oxide) and (poly\$1acrylonitrile or poly\$1ethyleneoxide or poly\$1ethylene glycol or poly\$1vinyl acetate or poly\$1vinyl alcohol)  | US-PGPUB; USPAT; USOCR | ADJ | ON | 2005/11/16 09:48 |

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| S57 | 770  | S53 and (silicon dioxide or silica or silicate or aluminum oxide or alumina or titanium oxide or zirconium oxide or boron oxide or metal oxide) same (poly\$1acrylonitrile or poly\$1ethyleneoxide or poly\$1ethylene glycol or poly\$1vinyl acetate or poly\$1vinyl alcohol) | US-PGPUB;<br>USPAT;<br>USOCR | ADJ | ON | 2005/11/16 09:50 |
| S58 | 186  | S57 not drug  | US-PGPUB;<br>USPAT;<br>USOCR | ADJ | ON | 2005/11/16 09:50 |
| S59 | 7563 | 524/492 or 524/430 or 210/679 or 210/681 or 210/682 or 210/688 or 210/747   | US-PGPUB;<br>USPAT;<br>USOCR | ADJ | ON | 2005/11/22 08:51 |
| S60 | 3551 | Dowex "50"  | US-PGPUB;<br>USPAT;<br>USOCR | ADJ | ON | 2005/11/16 14:31 |
| S61 | 335  | Dowex "50" same polymer   | US-PGPUB;<br>USPAT;<br>USOCR | ADJ | ON | 2005/11/16 14:31 |
| S62 | 145  | interpenetrating network same hydrogel  | US-PGPUB;<br>USPAT;<br>USOCR | ADJ | ON | 2005/11/17 09:02 |
| S63 | 1    | permeable reactive barrier and interpenetrating network   | US-PGPUB;<br>USPAT;<br>USOCR | ADJ | ON | 2005/11/17 13:25 |
| S64 | 3    | permeable reactive barrier and homogeneous  | US-PGPUB;<br>USPAT;<br>USOCR | ADJ | ON | 2005/11/17 09:04 |
| S65 | 69   | reactive (barrier or membrane) and homogeneous  | US-PGPUB;<br>USPAT;<br>USOCR | ADJ | ON | 2005/11/17 12:03 |
| S66 | 139  | metal alkoxide with (ion exchange)  | US-PGPUB;<br>USPAT;<br>USOCR | ADJ | ON | 2005/11/17 12:03 |